

## SEQUENCE LISTING

<110> Mohapatra, Shyam S.

Kumar, Mukesh

<120> Genetic Adjuvants for Immunotherapy

<130> USF-182XC1

<150> 60/319,523

<151> 2002-09-05

<160> 12

<170> PatentIn version 3.1

<210> 1

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> forward primer for murine IL-12 p40 subunit

<400> 1

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23

<210> 2

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<212> DNA

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<223> reverse primer for murine IL-12 p40 subunit

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26

<210> 3

<211> 22

<212> DNA

<213> Artificial Sequence

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<400> 3

acccaagctt gctagcagca aa

22

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gaagccatag agggtagcgc atc

23

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<211> 22

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<223> forward primer for murine IL-12 p35 subunit

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22

<210> 6

<211> 22

<212> DNA

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<223> reverse primer for murine IL-12 p35 subunit

<400> 6

gcagagggcc tcgagctttc ag

22

<210> 7

<211> 1444

<212> DNA

<213> Homo sapiens

<400> 7

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cgagaagctg atgtagagag agacacagaa ggagacagaa agcaagagac cagagtcccg 180

ggaaagtcct gccgcgcctc gggacaatta taaaaatgtg gcccctggg tcagcctccc 240

agccaccgcc ctacactgcc gcggccacag gtctgcatcc agcggctcgc cctgtgtccc 300

tgcagtgccg gctcagcatg tgtccagcgc gcagcctcct ccttgtggct accctggtec 360

tcctggacca cctcagtttg gccagaaacc tccccgtggc cactccagac ccaggaatgt 420

tcccatgcct tcaccactcc caaacctgc tgagggccgt cagcaacatg ctccagaagg 480

ccagacaaac tctagaattt tacccttgca cttctgaaga gattgatcat gaagatatca 540

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<210> 8

<211> 253

<212> PRT

<213> Homo sapiens

<400> 8

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Met Trp Pro Pro Gly Ser Ala Ser Gln Pro Pro Pro Ser Pro Ala Ala
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Ala Thr Gly Leu His Pro Ala Ala Arg Pro Val Ser Leu Gln Cys Arg
          20           25           30

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Leu Ser Met Cys Pro Ala Arg Ser Leu Leu Leu Val Ala Thr Leu Val
          35           40           45

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Leu Leu Asp His Leu Ser Leu Ala Arg Asn Leu Pro Val Ala Thr Pro  
 50 55 60

Asp Pro Gly Met Phe Pro Cys Leu His His Ser Gln Asn Leu Leu Arg  
 65 70 75 80

Ala Val Ser Asn Met Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr  
 85 90 95

Pro Cys Thr Ser Glu Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys  
 100 105 110

Thr Ser Thr Val Glu Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu  
 115 120 125

Ser Cys Leu Asn Ser Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys  
 130 135 140

Leu Ala Ser Arg Lys Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser  
 145 150 155 160

Ile Tyr Glu Asp Leu Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn  
 165 170 175

Ala Lys Leu Leu Met Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn  
 180 185 190

Met Leu Ala Val Ile Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser  
 195 200 205

Glu Thr Val Pro Gln Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys  
 210 215 220

Thr Lys Ile Lys Leu Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala  
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Val Thr Ile Asp Arg Val Met Ser Tyr Leu Asn Ala Ser  
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<210> 9

<211> 2347

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 9

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cccattgagg tcatggtgga tgccgttcac aagctcaagt atgaaaacta caccagcagc     720
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<210> 10

<211> 328

<212> PRT

<213> Homo sapiens

<400> 10

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Ala Ser Pro Leu Val Ala Ile Trp Glu Leu Lys Lys Asp Val Tyr Val
          20           25           30

```

```

Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu
          35           40           45

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```

Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln
          50           55           60

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Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys  
65 70 75 80

Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val  
85 90 95

Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp  
100 105 110

Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe  
115 120 125

Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp  
130 135 140

Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg  
145 150 155 160

Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser  
165 170 175

Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu  
180 185 190

Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile  
195 200 205

Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr  
210 215 220

Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn  
225 230 235 240

Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp  
245 250 255

Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr  
260 265 270

Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg  
275 280 285



Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala  
 290 295 300

Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser  
 305 310 315 320

Glu Trp Ala Ser Val Pro Cys Ser  
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<210> 11

<211> 1193

<212> DNA

<213> Homo sapiens

<400> 11

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agttatatct tggcttttca gctctgcac gttttggggt ctcttggtcg ttactgccag	180
gacccatatg taaaagaagc agaaaacctt aagaaatatt ttaatgcagg tcattcagat	240
gtagcggata atggaactct tttcttaggc attttgaaga attggaaaga ggagagtgc	300
agaaaaataa tgcagagcca aattgtctcc ttttacttca aactttttaa aaacttttaa	360
gatgaccaga gcatccaaaa gagtgtggag accatcaagg aagacatgaa tgtcaagttt	420
ttcaatagca acaaaaagaa acgagatgac ttcgaaaagc tgactaatta ttcggtaact	480
gacttgaatg tccaacgcaa agcaatacat gaactcatcc aagtgatggc tgaactgtcg	540
ccagcagcta aaacagggaa gcgaaaaagg agtcagatgc tgtttcaagg tcgaagagca	600
tcccagtaat ggttgtcctg cctgcaatat ttgaatttta aatctaaatc tatttattaa	660
tatttaacat tatttatatg gggaatatat ttttagactc atcaatcaaa taagtattta	720
taatagcaac ttttgtgtaa tgaaaatgaa tatctattaa tatatgtatt atttataatt	780
cctatatcct gtgactgtct cacttaatcc tttgttttct gactaattag gcaaggctat	840
gtgattacaa ggctttatct caggggcca ctaggcagcc aacctaagca agatcccatg	900
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cagttactgc cggtttgaaa atatgcctgc aatctgagcc agtgctttaa tggcatgtca	1020

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<210> 12

<211> 166

<212> PRT

<213> Homo sapiens

<400> 12

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 20 25 30

Asn Leu Lys Lys Tyr Phe Asn Ala Gly His Ser Asp Val Ala Asp Asn  
 35 40 45

Gly Thr Leu Phe Leu Gly Ile Leu Lys Asn Trp Lys Glu Glu Ser Asp  
 50 55 60

Arg Lys Ile Met Gln Ser Gln Ile Val Ser Phe Tyr Phe Lys Leu Phe  
 65 70 75 80

Lys Asn Phe Lys Asp Asp Gln Ser Ile Gln Lys Ser Val Glu Thr Ile  
 85 90 95

Lys Glu Asp Met Asn Val Lys Phe Phe Asn Ser Asn Lys Lys Lys Arg  
 100 105 110

Asp Asp Phe Glu Lys Leu Thr Asn Tyr Ser Val Thr Asp Leu Asn Val  
 115 120 125

Gln Arg Lys Ala Ile His Glu Leu Ile Gln Val Met Ala Glu Leu Ser  
 130 135 140

Pro Ala Ala Lys Thr Gly Lys Arg Lys Arg Ser Gln Met Leu Phe Gln

145

150

155

160

Gly Arg Arg Ala Ser Gln  
165